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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/051,063	01/17/2002	M. Nabeel Tarabishy	201-0473	3408

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EXAMINER

MARC COLEMAN, MARTHE Y

ART UNIT PAPER NUMBER

3661

DATE MAILED: 09/27/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/051,063

Applicant(s)

TARABISHY ET AL.

Examiner

Marthe Y Marc-Coleman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 January 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☒ Claim(s) 1-18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

1. This office action is in response to Application No. 10/051,063 filed on 01/17/02 in which claims 1-18 are presented for examination.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-18 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims are indefinite because:

"the relative positions" lacks proper antecedent basis in claims 1-9 and 10-18.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 2, 10, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Ishida et al. (U.S. Patent No. 5,572,428).

In regard to claims 1 and 10 Ishida et al. discloses an apparatus and method for avoiding vehicle collisions comprising (see col. 2 lines 7-18):

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- generating a forward-looking signal corresponding to relative positions between a host vehicle and a target object (see col. 4 lines 61-66);
- generating a yaw rate signal corresponding to the angular position of said host vehicle relative to said target object (see abstract and col. 3 lines 14-17 and col. 4 lines 66-67);
- predicting the probability density function for the position of a vehicle at several future occasions; predicting the probability density function for the position of said additional object at several future occasions; forming the joint probability density function for the relative positions of the vehicle and object at said several future occasions; and integrating the joint probability density function over the area in which the vehicle and the object are in physical conflict based upon said signals (see col. col. 10 lines 19-col. 11 line 31).

In regard to claims 2 and 11, Ishida et al. discloses that said target object is a vehicle (see abstract and col. 2 lines 7-18).

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3-9, 12-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida et al. (U.S. Patent No. 5,572,428) in view of Wand et al. (U.S. Patent No. 5,613,039).

In regard to claims 3, 12, 4, and 13, Ishida et al. fails to disclose that said object is a fixed object. Ishida further fails to disclose that the probability density function is predicted for several vehicles, fixed objects and moving objects.

Wand et al. discloses that said object is a fixed object (see col. 3 lines 27-29). Wand et al. also discloses that the probability density function is predicted for several vehicles, fixed objects and moving objects (see abstract).

At the time of the invention, it would have been obvious to one skilled in the art to incorporate Wand et al. stable object into the anti-collision system of Ishida et al. because it would provide adequate warning of a potential collision.

In regard to claims 5 and 14, Wand et al. discloses the said forward-looking signal corresponds to the total width and length of the vehicle and the object (see col. 3 lines 19-25).

In regard to claims 6 and 15, Wand et al. discloses that the probability density function is approximated with the Gaussian normal distribution (see col. 2 lines 39-44, 59-65).

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In regard to claims 7, 8, 16, and 17, Wand et al. discloses the probability density function is calculated using the kalman filter wherein the kalman filter is used to calculate the covariance matrix of the vehicle and the object (see col. 18 lines 49-57).

In regard to claims 9 and 18, Wand et al. discloses taking a suitable cause of action for the specific situation (see col. 9 line 1-col. 11 line 65).

### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marthe Y Marc-Coleman whose telephone number is (703) 305-4970. The examiner can normally be reached on Monday-Thursday from 9:30 AM - 8:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William A Cuchlinski can be reached on (703) 308-3873. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7687 for regular communications and (703) 305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

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Patent Examiner

*Marthe J. Marc-Coleman*

Marthe Marc-Coleman

September 24, 2002